

**REMARKS**

This amendment is in response to the first Office action mailed on 22 September 2005 (Paper No. 09192005).

In response to the examiner's objection to the abstract, the abstract has been corrected. Withdrawal of the objection is respectfully requested.

Claims 1 through 16 are pending in this application. Claim 1 has been amended, and claims 31 through 36 are newly added. No new matter has been added.

**I. Claim Rejection - 35 U.S.C. §112**

(1) Claims 1 through 16 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner argued that it is not clear whether the corresponding functional language limitations in base claim 1 (i.e., "sensing a temperature of the chamber" in lines 4-5 of the claim; "controlling the temperature adjuster according to..." in lines 9-12 of the claim) are intended to merely recite the intended use of the first temperature sensor and of the controller or whether these are intended to recite method steps in an apparatus claim or whether these are intended to invoke 35 U.S.C. 112, sixth paragraph without using means-

plus-function language, for example, thus rendering indefinite the metes and bounds of protection sought by base claim 1 and all claims depending therefrom.

The examiner's rejection is not proper for the following reasons.

**First**, claims 1 through 16 are directed neither to "intended use" nor "method steps in an apparatus claim."

MPEP 2173.05(g) states that:

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. **Functional language does not, in and of itself, render a claim improper.** *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. **A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step.** (Emphasis added.)

The law clearly permits the applicant to define an element by what it does. Also, the law clearly permits a functional limitation to be used in association with an element to define a particular capability or purpose that is served by the recited element.

In view of the above holdings, there is no improper functional limitation in claim 1. Furthermore, "sensing a temperature of the chamber" in claim 1 has been amended to

“arranged to sense a temperature of the chamber.”

**Second**, the languages in claims 1 through 16 do not invoke 35 U.S.C. 112, sixth paragraph.

MPEP §2181 states that:

A claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis:

- (A) the claim limitations must use the phrase "means for" or "step for";
- (B) the "means for" or "step for" must be modified by functional language; and
- (C) the phrase "means for" or "step for" must not be modified by sufficient structure, material or acts for achieving the specified function.

With respect to the first prong of this analysis, a claim element that does not include the phrase "means for" or "step for" will not be considered to invoke 35 U.S.C. 112, sixth paragraph.

Here, since claim 1 properly defines the first temperature sensor and the controller by what they do, and claim 1 does not include the phrase “means for” or “step for,” the claim limitations should not be interpreted to invoke 35 U.S.C. 112, sixth paragraph.

Therefore, claims 1 through 16 are not amiss under 35 U.S.C. 112, second paragraph.

(2) Claims 1 through 16 stand rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such

omission amounting to a gap between the necessary structural connections.

The examiner argued that the omitted structural cooperative relationships are, for example: the ones between the at least one chamber and each of the first and second temperature sensors; the ones between the temperature adjuster, the at least one chamber, and the controller; and, the ones between the controller and each of the first sensor and the second sensor.

In *Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004), the court noted that the claim term "operatively connected" is "a general descriptive claim term frequently used in patent drafting to reflect a functional relationship between claimed components," that is, the term "means the claimed components must be connected in a way to perform a designated function." "In the absence of modifiers, general descriptive terms are typically construed as having their full meaning." *Id.* at 1118, 72 USPQ2d at 1006. In the patent claim at issue, "subject to any clear and unmistakable disavowal of claim scope, the term 'operatively connected' takes the full breath of its ordinary meaning, i.e., 'said tube [is] operatively connected to said cap' when the tube and cap are arranged in a manner capable of performing the function of filtering." *Id.* at 1120, 72 USPQ2d at 1008.

The necessary cooperation need not be a "direct mechanical interaction"; the elements can function independently "so long as the overall result is patentable." See *In re Gustafson*, 331 F.2d 905, 141 USPQ 585 (CCPA 1964); *Ancol Co. V. Uniroyal, Inc.*, 448 F.2d 872, 169

USPQ 759 (2nd Cir. 1971).

The cooperation between elements can also be expressed by describing how the element functions within the operative framework of the whole invention. *See In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).

Here, claims 1 through 16 have the necessary cooperation. For the examiner's convenience, the exemplary cooperation is recited as follows, but not limited thereto:

the cooperation between a first temperature sensor and at least one chamber is found at “A first temperature sensor arranged to sense a temperature of the chamber”;

the cooperation between a second temperature sensor and at least one chamber is found at “a second temperature sensor...to sense an inner temperature of the chamber”;

the cooperation between a temperature adjuster and at least one chamber is found at “a temperature adjuster adjusting the inner temperature of the chamber”; and

the cooperation between a controller and the temperature adjuster is found at “a controller controlling the temperature adjuster”; and

the cooperation between a controller and first and second temperature sensors is found at “a controller controlling the temperature adjuster according to the temperature sensed by the second temperature sensor when the temperature sensed by the first temperature sensor is within a predetermined temperature range of the chamber and the temperature sensed by the second temperature sensor is not within the predetermined temperature range of the chamber.”

The cooperation between elements in claims 1 through 16 is expressed by properly describing how the element functions within the operative framework of the whole invention or by a mechanical interaction.

Withdrawal of the rejection is respectfully requested.

## II. Claim Rejection - 35 U.S.C. §102

Claims 1 through 5, 7 through 12, 15 and 16 stand rejected under 35 U.S.C. §102 as being anticipated by Woo '599.

The examiner argued that Woo discloses a refrigerator essentially as claimed, including at least one chamber 3A, a first temperature sensor SEN 2 and a second temperature sensor SEN 1, a temperature adjuster including a refrigeration system and a heater 9, and controller as depicted schematically in Figure 7.

In *Verdegaal Bros.*, the Court held that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” (*Verdegaal Bros v. Union Oil Co. of California*, 814 F.2d 628 (Fed. Cir. 1987)).

In claim 1, a first temperature sensor senses a temperature of the chamber, and a second temperature sensor senses an inner temperature of the chamber.

That is, the first temperature sensor and the second temperature sensor must be arranged in a way to perform a designated function. (See *supra Innova/Pure Water Inc.*, 381

F.3d at 1117-20, 72 USPQ2d at 1006-08 (Fed. Cir. 2004)). In other words, the arrangement of the first temperature sensor and the second temperature should be interpreted, considering the designated function. In view of the holding of *Innova/Pure Water Inc.*, the claimed inventions are structurally distinguishable from Woo '592.

First, Woo '599 does not describe the first temperature sensor. In Woo '599, SEN2 is for sensing the temperature of the heater rather than a temperature of the chamber. The arrangement of SEN2 in Wood is different from the arrangement to perform sensing the temperature of the chamber as recited in claims 1 through 16 because the temperature of the heater and the temperature of the chamber are not equivalent to each other. Because SEN2 of Woo '599 is for preventing the heater from overheating (see col.10, lines. 58-63), there is no suggestion or modification to modify SEN 2 to sense the temperature of the chamber.

Second, Woo '599 does not describe the controller controlling the temperature adjuster according to the temperature sensed by the second temperature sensor when the temperature sensed by the first temperature sensor is within a predetermined temperature range of the chamber and the temperature sensed by the second temperature sensor is not within the predetermined temperature range of the chamber. Woo '599 discloses that the temperature adjuster is controlled on the basis of a kimchi load calculated from a difference between a peripheral temperature of the heater and an internal temperature of the kimchi seasoning chamber (see col. 2, lines 41-44 and col. 4, lines 60-68) and/or that the temperature adjuster is controlled only on the basis of an internal temperature of the kimchi seasoning chamber, which is sensed only by SEN 1, after the seasoning of the kimchi (see

col. 2, lines 47-52). The controller of Woo '599 (controlling the temperature based on the difference between a peripheral temperature of the heater and an internal temperature of the heater) is not equivalent to the controller of claim 1 of the present invention. Likewise, the controller recited in claims 8 through 12 are not disclosed in Woo '599.

Therefore, the examiner fails to show that each and every element as set forth in the claims 1 through 16 is found in Woo '959.


Withdrawal of the rejection is respectfully requested.

A fee of \$100.00 is incurred by adding two dependent claims in excess of total 20 claims. Applicant's check drawn to the order of Commissioner accompanies this Amendment. Should the check become lost, be deficient in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.



In view of the above, it is submitted that all of the claims now present in the application are patentable over the cited references, taken either alone or combination and accordingly should now be in a condition suitable for allowance.

Respectfully submitted,

  
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